MONTHLY WEATHER REVIEW.

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INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during January, 1886, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i.

The most noteworthy meteorological feature of the month was the area of high pressure, described herein as number i, and the attendant cold wave, which passed over the districts east of the Rocky Mountains from the 6th to the 12th. The loss of life and stock in the western districts was very great, and during the eastward movement of this high area the lowest temperatures recorded in many years occurred in the Southern States, causing much suffering among the people of that section. Very heavy losses to agricultural, fruit-growing, and other interests throughout the South also resulted from this cold wave.

The average number of areas of low pressure for the month of January during the last twelve years is 13.2. The paths of the centres of eleven low areas are traced on chart i for January, 1886.

The mean temperature for the month averaged below the normal over nearly the whole country, the exceptions being California, the western portions of the middle and southern plateau districts, northern New England, and the Canadian Maritime Provinces. The most marked deficiencies occurred in the Southern States and Missouri Valley.

The precipitation was in excess of the average on the Pacific coast, in the Rocky Mountain regions and thence eastward over the northern districts to the Atlantic coast. In the Southern States, except over portions of Alabama, Mississippi, and Louisiana, there was a general deficiency. The greatest departure from the normal precipitation occurred in California, where it was from two to three inches in excess of the average.

In the preparation of this REVIEW the following data, received up to February 20, 1886, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-three Signal Service stations and fifteen Canadian stations, as telegraphed to this office; one hundred and sixty-one monthly journals and one hundred and sixty-five monthly means from the former, and fifteen monthly means from the latter; two hundred and ninety-seven monthly registers from voluntary observers; sixty monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the New England Meteorological Society, and from the local weather services of Alabama, Illinois, Indiana, Iowa, Minnesota, Nebraska, Ohio, and Tennessee, and of the Central Pacific Railway Company; trustworthy newspaper extracts, and special reports.

ATMOSPHERIC PRESSURE.

[*Expressed in inches and hundredths.*]

The mean atmospheric pressure for January, 1886, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines on chart ii. It will be seen from this chart that the mean pressure is greatest over the extreme northwest, upper Missouri valley, and northern slope, while the area of least pressure occupies the north Pacific coast. The isobar for 30.35 indicates the region of greatest pressure, and that for 29.95 shows the region over which the barometric means were lowest. The highest monthly barometric means, 30.36 and 30.37, were reported from Poplar River, Montana, and Fort Garry, Manitoba, respectively; and the lowest, 29.92 and 29.94, occurred at Fort Canby and Tatoosh Island, Washington Terrritory, respectively. In the districts east of the Mississippi River the barometric means range from 30.0 to 30.1, the lower means occurring at stations on the Atlantic coast and in the lower lake region. Over the southern districts to the west of the Mississippi the mean pressure generally ranges from 30.1 to 30.2.

As compared with the mean pressure for the preceding month, an increase has occurred in the lower Missouri valley and in the northern districts from western Montana to the Atlantic coast, the difference being greatest in the extreme northwest, where it amounts to from .15 to .21. In all other districts the mean pressure for January, 1886, is lower than for the preceding month, the difference being most marked in the central Rocky Mountain districts and east Gulf states, where it ranges from .10 to .14.

The departures from the normal pressure at the various Signal Service stations are given in the tables of miscellaneous meteorological data, and on chart iv they are exhibited by lines connecting stations of equal departure. In the upper Missouri valley, extreme northwest, and in portions of the upper lake region and northern slope, the mean pressure for January, 1886, is above the normal, the departures being greatest at stations in northern Dakota and northern Minnesota. Over a small area, including portions of the Indian Territory and Texas, the mean pressure is normal, or slightly above. In all other parts of the country the pressure is below the normal, the departures being greatest on the north Pacific coast and in the Atlantic coast districts south of New England, where they generally exceed .10.

BAROMETRIC RANGES.

The following are some of the extreme monthly ranges:

Greatest.	Inches.	Least.	Inches.
Boston, Massachusetts	2.09	Key West, Florida	0.58
Sandy Hook, New Jersey	2.04	Fort Davis, Texas	0.58
New London, Connecticut	2.03	Fort Grant, Arizona	0.58
New York City	2.03	Fort Apache, Arizona	0.62
Portland, Maine	2.02	Fort Thomas, Arizona	0.65
Atlantic City, New Jersey	2.01	Prescott, Arizona	0.65
New Haven, Connecticut	1.96	Los Angeles, California	0.66
Block Island, Rhode Island	1.96	Keeler, California	0.67
Eastport, Maine	1.93	Yuma, Arizona	0.71

The monthly barometric ranges are also given in the tables